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UNITED STATES DEPARTMENT OF AGRICULTURE
BUREAU OF AGRICULTURAL ECONOMICS

Contributors

Editorial Note: THIS FALL NUMBER supplies a varied reading. It looks a long way forward, it looks a long way back, it discusses problems in present undertakings. And it considers our neighbors to the North.

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World Social Structure— What Shall it Be?

By HENRY C. TAYLOR. *It may not be too soon to be thinking about the whole world-wide social structure in which we hope eventually to live and which we should like to leave for those who come after to perfect and maintain. Here the dean of rural economists meditates on the matter.*

THE SOCIAL structure is composed of all those institutions and agencies, public and private, which service and control the people of a geographic area or a sphere of interest. The world social structure is as yet but fragmentary. International law, international agreements, and the international agencies, private and governmental, carrying on or facilitating world trade are the fragments of what may become an effective world social structure. The International Institute of Agriculture, the World Court, and the League of Nations represent efforts to integrate a world social structure.

There is great need and, at present, great hope that in the post-war period the world social structure will be developed in a manner greatly to facilitate international relations of a political, economic, and social nature. This is necessary if world peace is to be realized.

The commerce of the world can best serve all the people of the world only when the world social structure has been developed to the point where the actions of any one nation will not run counter to the best interests of the world as a whole. Just as the professional groups, the industrial groups, the labor groups, or the agricultural groups within the nation should have autonomy so long as they keep within limits which promote the general welfare, so, under the controls of the world social structure, each nation should be free to run its affairs as it likes so long as it keeps in harmony with world welfare.

The view is held by many people in many nations that the major international conflicts and wars arise out of economic maladjustments resulting from the use by nations of artificial barriers to the international free flow of labor, capital, and goods. At a World Economic Conference at

the League of Nations in 1927 the view was expressed that obstacles should be removed "with the two-fold object of stimulating production and restoring free channels of trade." This, it was said, "requires concerted international action" specifically that it is essential "that nations should take steps forthwith to reverse or diminish those tariff barriers that gravely hamper trade."

International Trade

Another version of this point of view emphasizing the relation of trade barriers to international peace has been expressed in the following terms: The greater the economic significance of political frontiers, the greater the danger of war; and the greater the facility with which all nations may secure through commerce the basic necessities of national life, the greater the prospects of peace.

But there are those who have serious doubts as to whether the free flow of labor, capital, and goods would of itself guarantee peace and prosperity for the people of the world.

Economic Imperialism

The ambitions of Germany and Japan to establish industrial-commercial empires over vast agricultural countries outside their own political borders have been powerful influences leading to conflicts which are absorbing the energies of the world.

England has provided the student of economic and commercial history the classic example of industrial and commercial imperialization, but its trade was in a large measure with the recently colonized areas of the world and during the early colonial period the system was advantageous to the new countries because it enabled them to devote themselves to the development of rich natural resources. By the time Germany and Japan entered the commercial world as modern industrial nations, the colonization of the world had been practically completed and the time was already approaching for a change in the economic policies of England.

Does the development of industrial and commercial empires competing for food, raw materials, and markets, necessarily result in conflicts among these empires and between them and the countries from which they wish to draw food and raw materials and in which they wish to sell their products? Or can there be developed, in the face of manifest differences in efficiency and resources, a collective assurance that all the peoples of the world may have opportunities and rewards comparable to their skills and efforts without fear of exploitation or oppression? The answers to these questions will depend on the kind of world social structure the people have the wisdom, the will, and the skill to build.

What Next?

Will the conditions of peace at the close of the war be such as to make it desirable and possible to restore the world rubber market to the producers of southeastern Asia, or instead of depending upon this potentially perpetual source of supply, will it be thought more desirable to look to other sources? In considering this question, full account will be taken of the potential sources of natural rubber in tropical America.

Steps have already been taken by the Americas to stimulate the cultivated rubber industry in the tropics of the Western Hemisphere, where leaf disease and inadequate labor supplies have been major obstacles to its growth. It is to be hoped that a long-time point of view will be taken, that the welfare of all the peoples involved will be considered, and that any permanent shift from perpetual sources to temporary sources of rubber will be studied from every angle.

Similar questions arise with regard to silk. Will there again be an extensive world trade in raw silk? Will synthetic products continue to supplement or will they largely supplant silk?

What will be the role of technical progress in agriculture, industry and transportation in determining world trade in agricultural products? How important a role has world trade in agricultural products played in making possible the high standards of living of the people of northwestern Europe and the United States? Can these benefits be extended to the so-called backward nations? Do conflicts arise when outside capital undertakes the development of relatively undeveloped territory? Are skills, intellectual leadership, and organizing ability from "advanced nations" to be exported to "backward nations"? Is world uniformity in economic institutions to be desired?

Is it probable that the world social structure of the after-war period will provide for the continuation of geographical concentration of industry in a few nations dependent upon many other nations for markets, as well as for food and the raw materials of industry? Is it probable that many nations will be willing to serve as agricultural "hinterlands", and if so, can they, in this capacity, maintain their independence either economically or politically?

New Patterns

It is not to be expected that the pattern of world commerce in agricultural products can be or should be the same after the war as before. The character of the pattern will be influenced by the extent to which world commerce continues to be dominated by the highly industrialized nations and by the extent to which the agricultural surplus countries develop their own industries and by the extent to which the one hundred million farmers, or more, who have continued to produce primarily for home use, expand production for the world market.

A major change in world trade in agricultural products would result if each of the agricultural nations developed the processing and manufacturing industries in proportion to their agriculture. For example, the U. S. S. R., once called the granary of Europe, ceased to play an important role in world trade in agricultural products. Of course, the extent and character of the industrialization of a given agricultural nation will be influenced by the abundance or scarcity of all the natural resources including the metals and mineral fuels, and by the characteristics of the population and the availability of capital.

In Exchange

While the industrialization of the nations that are now exporting agricultural products in exchange for manufactured products would tend to reduce the amount of world trade in agricultural products, it might not

affect the exchange of agricultural products for mineral products or the exchange of agricultural products between different climates.

Prerequisite

In fact, a change of this kind might well be accompanied by an increase in the international exchange of agricultural products owing to the modernizing of the agriculture and the industry of countries like India and China. Farmers in these countries would then more generally produce surpluses of the things they can produce to the best advantage to exchange for agricultural products grown in other climates and thus expand that part of world trade in agricultural products which arises out of variations in physical geography. The possibility for expansion of world trade in this direction is very great. A prerequisite, of course, is stable governments which are able to protect life and property and enforce contracts.

Furthermore, there is a growing realization that even in the period of greatest world prosperity a large proportion of the population of the world was undernourished. Nutritional studies are promoting the idea of greater use of the "protective foods." Progress in meeting these needs may wield a great influence on trade in food commodities.

Contrasts

Production primarily for the market characterizes the activity of fewer than one-sixth of the farmers of the world. A high proportion of the farmers of Europe, North America, and the South Temperate Zone produce primarily for the market. The farmers of the rural villages of eastern and southeastern Asia as a rule practice the self-sufficing economy. The farmers of the Orient produce but little for the market and buy but little in the market. The disadvantage of this self-sufficing economy is the fact that people have rarely, if ever, found it possible to attain a high economic standard of living on the basis of the limited variety of products available in any one locality. The low levels of living in the rural villages of India and China where commercial agriculture is but little developed give abundant evidence of the limitations set by the practice of local self-sufficiency.

Judicious Combinations

The relatively high level of living of the people on the family farms of the western world is based upon a combination of commercial agriculture and the production for home use. Over-emphasis of either is to be avoided. A farmer who gives primary attention to producing for home use will usually lack the funds for providing his children with a higher education. A farmer who overlooks the importance of producing for home use finds himself likewise limited because of the high cash outlay for food, much of which might be of better quality if produced at home.

Although farmers in the United States have the reputation of possessing a high standard of living, there are important exceptions. In fact, the lowest standards of living in rural America are not to be found in the Southern Appalachian Highlands where the self-sufficing economy is dominant. They are found in the areas of cotton production where a high proportion of the farmers grow

cotton for market and produce almost nothing else.

In considering the modernizing of the agriculture of the so-called backward nations, full attention should be given to securing that combination of commercial and self-sufficing agriculture which will, in the long run, provide the best life for the people. This point cannot be too strongly urged for there has been a tendency on the part of those who have stimulated the development of large-scale commercial agriculture to think only of the ways and means of securing the products for the markets, with little regard to the building of a better rural civilization based upon a self-directing agriculture with a proper balance between production for home use and production for the market.

To Endure

Although commercial agriculture, added to production for home use, may be a means of building a civilization with more of the physical comforts and opportunities for education and culture, the question may be raised as to which type of rural civilization, the highly commercial or the largely self-sufficing, can the better endure the privations and disasters of centuries of international conflict. Clearly, the commercial nation with its great industries and its agricultural production for the market can build fighting equipment of a kind that the self-sufficing economy cannot produce.

On the other hand, the highly complex commercial economy is vulnerable at many points. Without its key centers, without its transportation system, the national life is paralyzed. The control of these may put the enemy in control of the nation.

Not so, where the civilization is based on a local economy in which people can live without great centers of commerce and without a transportation system. When it comes to perpetuating the race in a period of continued world upheaval, is it not possible that the self-sufficing farmers of southeast Asia will provide the seed for repopulating the earth if Western civilization should destroy itself with the machinery it has had the skill to construct, but lacked the wisdom and the will to control?

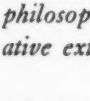
Life Itself

In the light of this problem of maintaining the race itself, should we not give first attention to the developmen of a world social-economic structure that will provide the conditions of world peace? This accomplished, the modernizing of the agriculture and the industry of the so-called backward nations may proceed with hope of success. Once there is assurance of responsible governments in a peaceful world, it may take little outside effort to modernize the agriculture and industry of countries which have for thousands of years followed the instincts for self-preservation by continuing to depend upon their self-sufficing economy and by avoiding dependence upon distant markets.

When these improvements in agriculture and industry are the result of, or at least associated with, an inner urge for a higher level of living in terms of food, clothing, educational facilities, and cultural opportunities, the people are on the high road of modern civilization.

Thirty Years of EXTENSION WORK

By M. L. WILSON. *To mark this anniversary year, the Director of Extension Work was asked to write about the underlying philosophy and principles and the future direction of the cooperative extension work.*



IN THE development of great social changes, historical mileposts are in themselves unimportant. One incident is linked to another. We find, for instance, a definite chain of events which traces from the agricultural revolution in England to the development of our modern agricultural technology. There were, first, such great scientific bodies as the American Philosophical Society, founded in 1743, and the Philadelphia Society for the Promotion of Agriculture in 1785. These set the pattern for the later county agricultural societies, such as the Albemarle Society whose inspiring organizer was Thomas Jefferson. There were the county fairs, the horticultural societies, the leadership of farm papers, the granges, and similar influences. All of these combined to bring about the founding of the United States Department of Agriculture, the establishment of the land-grant colleges and agricultural experiment stations, and the organization of the Federal-State-county cooperative Extension Service.

To be able to carry on scientific farming on a basis of personal initiative and without dictatorial or exploitative supervision, as the average farmer in the United States can today if he takes advantage of the opportunities offered him by the agricultural extension system, is indeed one of the greatest accomplishments of our free, democratic society.

It would be a mistake to think that this was brought about through a carefully thought-out plan, or even that the events we now see linked historically came about in logical sequences of a carefully thought-out agricultural policy. But we know or can be reasonably sure that most of the measures taken reflect a desire on the part of farmers through the successive generations to better their economic status. Farm people historically have been in search of the better life. And here in this country, where our kind of democracy was born, the desire of farm people was early reflected in the shaping of public policy.

No wonder, then, that agriculture early attracted leaders who, while they saw the power and possibilities of science, also saw the great need for coupling science with education if it was to benefit the masses.

Advancement in agricultural science alone could not have brought

the tremendous economic achievement reflected in our present volume of wartime food production. Along with the new things in science, we needed new methods of education. Development of demonstration teaching, which is an underlying principle of agricultural and home economics extension work, is important. It is of as great significance in the entire field of education as it is in the more specific field of agricultural education. In the light of recorded USDA history it is too easy to think of men like Seaman Knapp, Charles A. True, W. S. Spillman, and C. B. Smith as outstanding agricultural leaders, rather than as pioneers in the development of education, but their contribution in the educational field was considerable.

Working Farmers

With the coming of the land-grant colleges and the organized efforts of the Department of Agriculture to reach the working farmers, agriculture probably made as rapid strides in the field of education as it did in the various fields of science. Both here and abroad, educators had been searching for new educational methods by which the families on the land could be induced to discard their suspicion of "book farming" in favor of trying more scientific methods. Through farmers' institutes, through bulletins and publications, and through the farm press, the more alert and ambitious farmers were able to take advantage of the scientific knowledge unfolding in our research institutions. Out of these efforts grew what by the turn of the century became known as agricultural extension work.

Departments of agricultural extension had been created at several agricultural colleges in the 1890's. By 1907, 39 State agricultural colleges were carrying on some form of extension work. In Iowa, one of the first States to carry on organized work of this kind, Uncle Henry Wallace of *Wallace's Farmer*, the grandfather of our Vice President, was one of the chief promoters of the State's first extension act. E. R. Wannop, in charge of extension work in Scotland, told us on his recent trip to the United States, that extension work in Scotland got under way on an organized basis in 1905 and was in full swing by 1908.

Coincidences

But extension work as we know it today, relying to a considerable extent on the persuasive power of demonstration, came as the result of threatened failure in a private venture on the part of a former educator. The story of Seaman Knapp and how he hit upon the idea of "community demonstration farming" has been told repeatedly. That this development came just in time to prevent farmers in the South from throwing up their hands during the cotton boll-weevil panic which swept the Southland in 1903 and 1904 is also widely known. A point which has not been emphasized enough, perhaps, is that the coincidences of necessity, associations, and friendship sometimes play an influential part in finding solutions to great problems.

Back in Iowa, Seaman Knapp and the man who was to be Secretary Wilson—"Tama Jim"—were great friends. Knapp left Iowa long before Wilson became Secretary of Agriculture. Knapp's inception of

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demonstration teaching was primarily a Southern development. When the cotton boll-weevil emergency hit, it was chiefly through Secretary Wilson's friendship for Knapp that, out of an emergency appropriation of $250,000 to combat the weevil, passed in January 1904, $27,000 was allotted to permit Knapp to launch "Farmers' Cooperative Demonstrations."

In this emergency use of funds lay the germ of what was later to become the chief instrument of organizing our modern farm technology. The experiences of Dr. Knapp, with the full endorsement of the General Education Board of New York, coupled with the genius of such outstanding men in the Department of Agriculture as Dr. True, Dr. Allen, and Dr. C. B. Smith, actually laid the foundation for the later organization of extension work on the Federal-State-county cooperative basis on which it has operated for 30 years, under the provisions of the Smith-Lever Act signed by President Wilson on May 8, 1914.

Educational Principles

In these 30 years we have learned that, although agricultural and home demonstrations constitute perhaps the keystone of the extension system, many other things are a part of extension work and successful extension teaching. The following principles of education may now be said in a general way to be embodied in extension programs:

(1) *Participation.*—Interesting farmers or members of their families in acting either as project demonstrators or cooperators, or as local or neighborhood leaders.

Coming Again

The staircase of history resounds to the noise of the wooden shoe of the peasant ascending.

—Thomas Carlyle

(2) *Democratic Use of Applied Science.*—Translation of scientific research and experimental findings in such a way that farm people can adapt them or reject them, according to their own wishes and needs.

(3) *Cooperation.* — Cooperating educationally and otherwise with the three levels of government—Federal, State, and county—and with local groups and organizations.

(4) *Grass-roots organization.*—Sponsorship of local programs by local groups of rural people in cooperation with the resident agent representing the Extension Service. Extension work reaches into the community, neighborhood, and family, with projects for every member including boys and girls 10 years old or over.

(5) *Variation of methods according to needs of groups.*—Development of a variety of teaching methods with which to reach different groups in a community.

(6) *Use of specialists.*—Reliance on trained specialists who have the responsibility of keeping resident county agents in close touch with experimental research and progressive developments in better farm practice.

(7) *Survey and trial programs.*—Scientific sampling and surveying of limited programs to test their practical use on a larger scale.

(8) *Recognition of interests and needs.*—Building programs in accordance with the needs and interests of the families to be served.

(9) *Recognition of cultural differences.*—Adapting programs so as to be best suited to the culture of the people who are to be taught.

(10) *Recognition of cultural changes.*—Adjusting programs in line with scientific developments as these are accepted by the community; and with changes in conditions and requirements expected of the community.

Records show that each year the Extension Service is reaching a greater number of people in rural areas. We cannot, however, measure in statistical terms all that extension work has accomplished as an educational institution since the turn of the century.

Great Changes

Some of the things extension work has done and is doing are probably not widely enough recognized. That may be true in the field of agriculture as well as in the Nation as a whole. Great changes have taken place as a result of scientific progress. These changes have left their mark on human society. Among rural people, they have meant a tremendous evolution in living standards. Given post-war freedom from economic depression which might result from Nation-wide industrial unemployment, farm people will realize a higher standard of living than has ever been enjoyed by any rural population—speaking in terms of the mass—in the history of mankind.

Flexibility

We have seen a shift in emphasis during recent years from the individual approach in extension work to the group approach. Witness, for instance, the activities in 4-H Club work. We see here a social trend that is highly desirable in terms of the time in which we live. Persons engaged in group activities become acquainted with other, like-minded individuals. So long as the activities follow the course inspired by extension work such group activity is bound to mean social betterment. Learning to work in groups to get jobs done signifies a development in the mass life and quality of human beings.

Throughout its 30 years of operation, extension work has had a high degree of flexibility in adapting itself to the needs and problems of local people. The work was begun primarily to help farmers help themselves in the realization of their practical needs. But the scope of the programs and approaches essential to achieve such an end have necessarily been so broad that agricultural and home economics extension work in the United States is now recognized the world over as a force that plays an important part in shaping the cultural directions, material progress, and the personal destiny of millions of our rural people.

CANADA'S FARMERS *Look to the Future*

By GORDON L. SMITH. *Some of the chief changes in Canadian agriculture brought by the war are likely to continue into peacetimes, says this Canadian agricultural expert.*

WITHOUT at least a peek at the British Empire and world commercial treaties that will follow the making of the peace it would be a rash prophet who would attempt to state definitely the trends of Canadian agricultural production after the war. Canadian farmers are so dependent on a huge export trade in certain major lines that they must conform to a production pattern over which they have by no means complete control.

All that one can safely predict at this time is what may happen provided world trade conditions bear some general resemblance to the situation prevailing before 1939. We shall assume that most nations will again be able and willing to buy each other's goods and that the general trend towards freer world trading which began to develop around 1935 is continued and accelerated.

Since the opening of the Canadian northwest (1905–15) wheat has been the dominant farm export of Canada and by far the most valuable farm crop as well. The normal harvest runs around 350 million bushels, of which two-thirds is exported. Far behind but of major pre-war importance were exports of pork products, particularly specialized long lean bacon, live beef cattle, and cheese. Speaking very broadly, all the wheat, the bulk of the beef cattle, and a few hogs were raised in the three prairie provinces of western Canada; all other exports, save some apples from British Columbia originated in Ontario and eastward. Farmers in the eastern provinces were mainly interested in the domestic market, whereas western farmers were mainly interested in exports. That was the situation at the beginning of this war.

At first, anticipating that war markets would follow the general pattern of the great conflict of 25 years before, when Canadian wheat acreage was doubled, Canadian farmers in 1940 sharply expanded the seeding of wheat but only moderately increased other lines of production. But exports demand did not develop correspondingly; in fact, enquiry for wheat fell sharply. With practically all Europe cut off by Hitler's armies, enquiry for wheat actually decreased and soon Canada found itself with an accumulation of more than half a billion bushels, or enough to supply normal export for more than 2 full years. On the other hand the overrunning of Denmark by the Nazis cut off one of Britain's major sources of bacon,

dairy, poultry products—a situation that was further aggravated by Japanese conquests in the Far East which shut off supplies of vegetable oils.

By 1941 it was evident that Canadian farmers would have to revise farm production drastically if agriculture in the Dominion was to play its full war role. The British market, always the most important outlet for Canadian farmers, had completely changed under the stress of siege. A lot of wheat and flour was still required, but with a half-billion bushel carryover and good crops looming there was no anxiety about this, except the storage problem. But there was much anxiety concerning supplies of highly concentrated foods like meat, fats, eggs, cheese, and condensed milk. Denmark had formerly supplied a good deal of these and New Zealand and Australia were big factors too. Denmark was cut off, and shipping was too scarce to bring produce from the other distant Dominions.

Present Picture

Backed by long-term contracts and various subsidies and bonuses, Canadian production of bacon, cheese, milk, butter, and beef was stimulated, and by strict limitation of deliveries and by price subsidies on competitive grain used for livestock feeding, wheat acreage was discouraged. As a result we find in this fifth year of the war, Canadian production of hogs far above peacetime records, big expansion in the output of dairy and poultry products, a tremendous growth of 'mixed' farming, especially hog farming in western Canada, and wheat acreage—until the gradual lifting of restricting influences this year—down to the levels of about 25 years ago.

How permanent will these changes prove to be?

Clues to Future

The changes in wheat picture this year probably offer a significant clue. At the time of writing no official estimates of farmers' intentions to plant are yet available but it is certain that acreage of wheat was stepped up substantially last spring, probably as much as 20 or 25 percent.

Several factors are responsible. In the first place there has been a recent sharp increase in exports to Great Britain, to that part of Europe and Africa that is already liberated, and to the United States. As a result, official restrictive influences have been greatly modified—in fact practically eliminated—for the time being at least.

Weather has been another potent factor. The spring was early and dry, favoring the seeding of wheat which farmers are convinced is a surer crop under these conditions than the coarse grains.

But the greatest reason of all is the conviction of the majority of Canadians, farmers and townsmen

First

In order to master Nature we must first obey her.

—Francis Bacon

alike, that immediately after the war there is going to be a tremendous demand for wheat. Already they see that demand developing and our carryover shrinking fast.

Changes of War

It is hard to make an exact estimate of the increase in farm production in Canada since the war began, but a Dominion Department of Agriculture economist said recently that it now exceeds by more than 50 percent the annual volume of pre-war years. In this increased production Canadian farmers have been guided by objectives determined at annual dominion-provincial agricultural conferences. Official objectives have been set which would increase all the stated products over the 5-year average, except wheat. In some cases these objectives have been reached or exceeded and in others they have not. There is no ready yardstick for balancing such diverse products as hogs, butter, wheat, and milk, even if the all-important factor of weather could be disregarded. Canadian farmers have cut down wheat acreage but made up the difference in coarse grains and hay. They have doubled their output of hogs, stepped up total milk production about 25 percent, are raising considerably more beef cattle and some more sheep, and have sent the egg output soaring. Moreover Canadian farmers have accomplished all this with a reduction of more than a quarter in available labor and with continuing, though easing, shortages of farm machinery.

With Great Britain, Canada has a 2-year bacon contract from January 1944, calling for a minimum annual export of 450 million pounds; at the present rate of export it may be filled twice over in this year alone. This is about four times the best pre-war export. There is also a guaranteed market for most of Canada's cheese and eggs. By decreasing the domestic ration Canada has been able to export a little butter, and is sending over considerable quantities of condensed milk. Flour and wheat exports have continued and are large, but these have always been important, war or no war.

Record Home Demand

In addition to these war exports to Britain, Canadian farmers have been handling a record domestic demand, and one that on several occasions has threatened to get out of hand. Under the influence of more than a million new jobs, in the army or war plants, domestic food consumption has risen sharply. Use of meat and butter would have soared had it not been for rationing. Even with that device consumption is very high and consumption of fluid milk has risen steadily in every urban center of Canada.

Always Wheat

Wheat has always been a natural crop in great areas of the central northwest. Quality has been amongst the world's highest. It has proved one of the safest and easily the most profitable of crops. Production lends itself to large-scale operation and the use of modern machinery. On the other hand dairying and other livestock raising, because of the danger of drought, has never been very popular in the heart of the Wheat Belt. Judging by the prompt switch back to wheat this year, farmers in these areas of western Canada

are going back into heavier production of that cereal and will continue to do so as long as export markets can be obtained. Canada has the land and the handling facilities for an annual crop of 350 to 450 million bushels of high-class hard spring wheat. The domestic market will use for flour, feed, and seed about 150 millions, the United Kingdom will take about the same quantity; the rest must find a market elsewhere.

Diversification

But more wheat alone is not expected to end the problem of post-war markets. Fringing the straight wheat areas in western Canada and especially in much of Alberta and Manitoba there are large sections of land in which moisture and running water are more plentiful. Here wheat does not do so well but oats, hay, and pasture and other fodder crops in normal years yield abundantly. This is good country for hogs, beef, and dairy cattle, and here has been the great wartime expansion of mixed farming. Farmers in these areas, with abundance of local cheap grain, are convinced that they can produce bacon, butter, and eggs as cheaply and perhaps more so than can be done in eastern Canada. Admittedly the bacon from the hogs they have been raising in greatly increased numbers since 1939, is not yet of the high uniform quality of pre-war Danish, Canada's principal pre-war competitor; but it is good and can be improved.

In beef cattle there does not seem to be so much to worry about. Farmers, remembering the market debacle after the first Great War, have been cautious in their expansion. A fair sized export market is essential but they think they have this in their pre-war live cattle export quota at a reduced duty to the United States and an alternative secondary market for live cattle in Great Britain. These outlets and a fair domestic demand could handle the recent expansion. On July 14, Agricultural Minister Gardiner announced that negotiations had been completed for a contract to supply the United Kingdom with a minimum of 100,000,000 pounds of beef during the 2-year period, 1944–45.

In egg production the authorities have already warned against further expansion and pointed out that some contraction seems inevitable.

Dairying is definitely not in this class. The cheese export to Great Britain has been expanded to replace the cheese that Britain used to get from Denmark and New Zealand. Before the war, however, most Canadian dairymen regarded the cheese end of their business as sort of a poor relation, and only through subsidies, withdrawal of supplies from the domestic market, and other pressure was the present export boost maintained. After the war many farmers will be willing to switch back

Best

No one management practice is more important to all crops in all areas than getting work done at just the right time.

—BAE

to butter factories and the whole-milk trade for the domestic market.

Potent Adjustors

For smoothing readjustment of agriculture from war to peace three potent factors are seen. First and most important is the near certainty of firm world food markets for 1 to 2 years after the end of the war. This will provide an opportunity for orderly liquidation of herds, flocks, and crops down to peacetime levels, if farmers want that opportunity. Of course, without some control, it may also be the basis of the biggest farm boom the world has ever seen. But that chance must be faced.

Secondly, and on bacon, the product where a post-war crisis threatens most, there is the present 2-year contract. This may bridge well into the peace and it will certainly do so if present efforts of the Dominion Government for a 2-year extension are successful. That again would provide for orderly liquidation of foundation stocks, if farmers want and think such liquidation is wise.

Finally there is the present complicated official system of farm subsidies, bonuses, price supports, etc., on war-expanded lines. They give the authorities some control over production.

Summing up then, one can state definitely that this war has resulted in an almost amazing growth of mixed farming in the more suitable areas of western Canada, that it has given Canadian farmers a chance to supply Great Britain with 80 to 85 percent of its bacon requirements and more dairy products than in peacetimes, at the same time keeping up a big steady flow of flour and wheat. Speaking less definitely, one can predict that Canadian farmers expect to retain permanently a substantial part of this wartime gain.

War of Ideas

The war of arms may end in 1944 or 1945. I do not know when. But the war of ideas will certainly go on—the war to decide what kind of ideas are to govern the world.

—Sir Gerald Campbell

TOWARD FULLER Use OF All Land

By RAPHAEL ZON. *A forester envisages an expanding rural civilization based not on commercial agriculture alone but on full utilization of all land resources.*

IN THE DISCUSSIONS of post-war planning, the need of an expanded economy is often emphasized. Yet much of the concrete post-war thinking reflects a philosophy of scarcity or fear of competition. This is true not only of business and labor but also of agriculture. Apparently each attempts to hold its own advantages and keep the control over production in its own hands.

The post-war problems in agriculture cannot be isolated from the post-war problems in the rest of our economy. For the most part, these are the same problems that plagued us before the war. After the war the pressure for solving them will become more insistent because of the heightened sense of community responsibility to our fighting men and the need of readjusting our economy from war to peace.

It is not to be expected that agriculture can or should shoulder the greater part of the responsibility of creating opportunities for ex-servicemen and workers released from war plants. This responsibility must be shared equally by all the economic groups—agriculture, industry, and labor. All of them have a common interest and a common goal.

This goal, first of all, is to maintain our national income at the same level as it has been during the war. This is the most essential condition for full employment. Should the national income fall, say, to 100 billion dollars per year, agriculture's net income would fall from the 1943 level of some 12 billion to 7 billion dollars. Such a reduced national income would not only preclude the possibility of providing security on the land for the million farm war veterans, but would even leave about a million members of the existing families and some 500,000 farm laborers unemployed and with no place to go. Unless we approach the post-war problems with a strong determination to maintain and possibly even expand our present national income we are licked before we start.

In agriculture the philosophy of scarcity is reflected in the oft-repeated argument that there are already enough farmers to take care of all our needs, that most of the good land is already gone, that future markets for farm products both at home and abroad are uncertain, that technological trends are toward increasing the productivity of farm labor and consequently toward decreasing the number of farmers.

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From the standpoint of the large commercial farmers—the 50 percent who produce 90 percent of all the agricultural products entering the markets—this viewpoint is understandable. From the standpoint of the other 50 percent of the farmers, or from that of the returning servicemen and demobilized war-plant workers, this attitude leaves much to be desired.

Sound Settlement

Traditionally, after each war plans have emerged for settling returning soldiers on the land. Most of these plans, especially after the last World War, proved unsuccessful. If land settlement of veterans is attempted after this war we should at least avoid a repetition of the mistakes of the past. There should be no helter-skelter settlement in remote regions away from existing social and recreational facilities. New land settlement should not be developed simply as a haven for the unemployed. No farm communities should be established upon the theory that they will be supported permanently by public works. No farm community should be established on a subsistence basis with the idea that the farmer will eke out his livelihood partly by working on a submarginal farm and partly by working in some local industry.

Settlements should be made on good land that has not been inflated in value, and the farms should be of sufficient size to provide reasonably good incomes. An individual farmer on a little piece of land struggling to make a living through his individual efforts is foredoomed to failure.

On the other hand, with farms on land leased from the Federal Government, from States or counties, with no mortgages facing the settlers, with machinery bought cooperatively and with cooperative marketing of products and perhaps, with a chance at part-time work in the woods, mills, or other industry, a new chapter might be written in the agricultural development of the country.

Drought

It's a pity fair weather should do any harm.

—Scottish Saying

Not Only Farming

In general, too much stress is being laid on land settlement for agricultural production as the sole source of income from land. Using the land for agriculture is often only a partial and in some areas not the most advantageous opportunity for rural people to make a living. The main task is to create economic opportunities on the land. It means improved opportunities for the people who are already on the land and the creation of new opportunities through fuller utilization of all available land resources.

We must not overlook that only one-fourth of our land is cropland. On the other hand, one-third of our total area, or 630 million acres, is forest land. The ratio of forests to the total area in individual States ranges from less than 2 percent to

more than 75 percent. About one-fifth is natural range land. Mineral lands, waters, bogs, etc., make up the rest. This non-cropland, embracing forest, range, marsh, and water, is an economic empire in itself. Many people can make a living on the land provided the resource is fully developed and properly handled.

Other Potentialities

In the case of forest land the opportunities lie not merely in the protection, growing, and harvesting of timber crops—important as they may be—but also in the fishing, hunting, and recreational industry based on the forest, and in numerous industries operated by water power developed from forest watersheds. It was estimated in 1936 that the equivalent of 3 months' work for 15 million men came directly and indirectly from forest resources. The potentialities of such work barely have been scratched. When fully developed on a permanent basis, the forest resources should support the equivalent of 25 million men for 3 months.

Range potentialities likewise are great. Western ranges now carry about 17 million head of livestock, and when restored to full capacity should support about 23 million head. Vast deposits of coal, iron, oil, and other metals and minerals are other sources of permanent work based upon land.

Broader Perspective

Even the agricultural potentialities of the country are not yet completely developed on a permanent basis. It is said that to meet the nutritional needs of all the people it will be necessary to maintain in cultivation all the land that was being cultivated in the summer of 1944, or the equivalent of this acreage. Those who are now farming include many older men who would like to retire and many who have been temporarily pressed into food production through patriotic motives. Moreover, some land is being used that would not otherwise be in cultivation. When the winning of the war allows these groups to withdraw from farming, and many of the established farms return to their usual acreage of production, there will be room for new and returned farmers to take part in providing the food that the world will need.

Land resources viewed in this broader perspective should offer productive employment to millions of discharged servicemen and demobilized war workers, in the course of time. These opportunities may not exist in purely commercial agriculture or in full-time lumbering or mining, but may involve a combination of enterprises suitable to the particular resources at hand.

Example: The "Cut-Over"

To take a specific case: The so-called cut-over region of the northern Lake States comprises some 57 million acres. Of these, 45 million acres are still classed as forest land. This forest area is almost the same size as that of Sweden or of Finland, and almost two and a half times as large as the forest area of Norway. Much of this forest, it is true, is of low quality and is poorly stocked. Still, there are some 2½ million acres of virgin timber. The region is the center of the northern hardwoods industry, is one of the large producers

of paper, and has the largest number of pulp and paper plants.

The region accounts for 85 percent of all the iron ore mined in the United States. According to a recent soil classification some 18 million acres of land are suitable for agriculture, of which only one-third is actually in farms. The region abounds in lakes, streams, fish and game, and supports a recreational industry which in magnitude is next to New England and California.

Let Us Assume

It is a fairly established fact that from 50 to 100 acres of forest land, depending upon the intensity of management, provides permanent work for one man for a year. We cannot expect at present such intensive timber culture in this country. But let us assume that if we adopt some semblance of permanent forestry 1,000 acres would give work to one person per year. The 45 million acres of forest land would immediately provide permanent work to some 45,000 persons in addition to the 54,000 people already gainfully employed in the woods, mills, and pulp and paper plants.

Take the mining industry of the region. Millions of tons of ore are shipped out to be smelted in Pittsburgh or Cleveland. Suppose most of this ore were partially processed or beneficiated at the mouth of the mine, as is done in England. What new opportunities would be created for local rural labor although to be sure it would mean reduced employment elsewhere.

The forest potentialities of the region are only scantily developed. Its available raw materials could support many small forest industries, for the products of which there is a decided need. Today the cut-over region barely supports 1½ million people. Before the war from one-fourth to one-third of this population was on relief of some sort so the population directly supported by the available resources probably did not actually exceed a million.

Finland and Norway are only one-third larger than this region, yet they have a population close to 3 millions each. Sweden, which is not quite twice as large, has a population in excess of 6 million. These three Scandinavian countries, climatically and from the standpoint of natural resources, are closely akin to the northern Lake States.

Why Not?

It is only reasonable to assume that the cut-over region could also support a corresponding density of population of, say, from 2 to 2½ million, and on a much higher level of living than most of them now enjoy, if the land, forests, mines, and waters are developed and fully utilized, principally for the benefit of the people living there.

This is only one example, and not the most promising, of many similar areas throughout the country.

Making the Most

Our land resources—whether cropland, forests, range, or mineral land—are not the rich, virgin resources of a century ago. They will need careful handling if they are to meet the Nation's requirements to the fullest extent. Many farm lands have suffered from overcropping and erosion. Forests have been severely cut and burned. Ranges have been seriously

overgrazed. Our highest grade ores have been depleted.

Nevertheless much of the damage may yet be repaired by intelligent land management. Where such restoration promises definite results within a reasonable time, and where the public need is clear, a program of public works may well be undertaken. If properly planned on a long-term basis, such works will fit well into the program of rural resettlement, supplying temporary employment until the resources themselves can support the community.

It has been estimated that 3 million people could be provided with worth-while work on a full- or part-time basis designed to protect land, water, and forest resources. Some 1½ million workers could be provided with part-time employment on reforestation alone in the next 10 years.

A vast rural housing program is needed. The farmhouse survey showed that 3 million farm dwellings in the United States failed to meet the minimum requirements for health and comfort. An expenditure of a billion dollars a year is not unreasonable for construction and repair to provide good housing on farms. New rural enterprises should be encouraged, such as small farm-machinery units and new industrial uses for farm waste.

Foundation

"Settlement on land" must be based upon real opportunities to work and establish permanent homes. The returning veteran will not be satisfied with a bonus, no matter how generous, with "made" work, or stop-gap jobs. He will want "to belong" and be integrated in the civilian body, and be a useful citizen with permanent roots in the community where he chooses to live. To meet these conditions will require careful planning, intelligent investment of public funds, and honest and generous implementation.

There is something incongruous, therefore, in a policy that discourages rural living, especially in a young country like ours which still has vast undeveloped land resources and when the social problems of urban and industrial life are proving so difficult. Land is the great reservoir of our strength as a Nation. It is the foundation upon which an expanding economy can be built. Like the legendary giant, Antaeus, whose strength was renewed every time he touched the earth, so also our strength must come from the fullest use of all the land.

Keeping at It

If you have great talents industry will improve them; if you have but moderate abilities, industry will supply their deficiencies.

—Sir Joshua Reynolds

Thomas Jefferson's LAND PRACTICES

By HELEN L. EDDY. *As a part of the celebration of the Jefferson bicentennial this magazine carried in its preceding number an article on Jefferson's land policies. It now reviews his actual land practices which were far ahead of his day.*

IT IS well known that many of those who have made major contributions to the creation and development of our Nation were close to the land and intimately acquainted with farming problems. This was especially true in colonial days when farming was the main occupation. Colonial Virginia was predominantly agricultural and the main body of its citizens were large landowners. Although many of these men practiced a profession such as law, medicine, or surveying, or served as members of the governing bodies, much of their time was devoted to the management of their estates, which furnished their chief source of income. Outstanding among this group of Virginia planters was young Thomas Jefferson.

Because of the early death of his father, as soon as Jefferson became 21 he was responsible for the management of the estates for the whole family. In addition, he continued to study law under George Wythe, one of the most eminent legal minds of his generation, and was admitted to the bar of Virginia in 1767. Two years later he became a member of the House of Burgesses representing the district of Shadwell. Thus far Jefferson was the typical young Virginia planter, supervising his estates, practicing law, and engaging in political activity—but here the similarity ends. Jefferson's love of nature coupled with his scientific bent and his training at the College of William and Mary, caused him to regard farming as more than an occupation or a source of income—to him it became a field for experimentation and a valued way of living.

His own estate through inheritance, marriage, and purchase comprised more than 10 thousand acres. About half that acreage was located in Albemarle County where he had five large farms—Shadwell, the birthplace, 'Lego, Pantops, Tufton, and Monticello his own home. The land was rolling clay loam with the best portions along the Rivanna River. Most of Monticello was too steep for cultivation and he wisely left the wooded mountain slopes in their natural state. He leveled the top of the mountain for his lawn and gardens and terraced the upper slope facing the south to use as an orchard and vineyard.

During the Revolution and the decade following, Jefferson's public services left no time for the personal management of his farms. But his love of farming was deep-seated and not a youthful enthusiasm. He constantly gathered information about crops and implements he thought might further the agricultural activities of others in the United States. He explained his viewpoint to William Drayton in 1786, saying, "We are probably far from possessing as yet, all the articles of culture for which nature has fitted our country. To find these out, will require abundance of unsuccessful experiments. But if, in a multitude of these, we make one useful acquisition, it repays our trouble." Consequently he went to great pains to secure plants and seeds as well as agricultural pamphlets to forward to his friends.

Soil Exhaustion

His long absences from home forced him to rely upon overseer management with the usual results of reduced crop yields, soil deterioration, and erosion. The farm economy of colonial Virginia called for continuous cropping of corn and tobacco—corn to feed to stock and servants, and tobacco for cash—until the soil was exhausted. Then new fields were cleared, the old abandoned, and the same planting system employed as before. To add to the general havoc the plowing was done up-and-down slope thus increasing the tendency of the soil to wash. Jefferson's lands were no exception. Upon close examination he discovered that "a 10 year's abandonment of them to the ravages of overseers" brought them "to a degree of degradation" beyond his expectations.

Rotations

Jefferson determined to restore his depleted fields by a change in the system of farming. His first step was to substitute potatoes, clover, and sheep for the customary corn and hogs. He had learned of the value of clover and sheep in maintaining soil fertility from Arthur Young, the great English agricultural publicist. He next determined his course of rotations. After discussing the problem with other agriculturists he adopted the following 7-year rotation based on the division of each farm into seven fields:

1. Wheat, followed the same year by turnips, to be fed on by the sheep.
2. Corn and potatoes mixed, and in autumn the vetch to be used as fodder in the spring if wanted, or to be turned in as a dressing.
3. Peas or potatoes, or both according to the quality of the field.
4. Rye and clover sown on it in the spring. Wheat may be substituted here for rye, when it shall be found that the second, third, fifth, and sixth fields will subsist the farm.
5. Clover.
6. Clover, and in autumn turn it in and sow the vetch.

Paths

Beaten paths are for beaten men.

—N. E. A.

Rulers

Great men are they who see that spiritual is stronger than material force; that thoughts rule the world.

—EMERSON

7. Turn in the vetch in the spring, then sow buckwheat and turn that in, having hurdled off the poorest spots for cowpenning. In autumn sow wheat to begin the circle again.

It is evident that Jefferson intended to abandon tobacco entirely, raise only a little corn, and produce just enough wheat to supply necessary cash. The clover and vetch were to serve as soil-building crops and pasture for sheep. To best utilize the dung supplied by his stock, he planned to fold the sheep and cattle on the poorest spots, thus saving the labor and waste involved in hauling the dung from barnyard to field. He gave a lot of thought to the problem of fertilizing his fields, and his Farm Book contains notations on the best way to handle dung, the number of cattle or sheep necessary to manure a given area, and the way to determine whether folding or spreading dung would be most beneficial.

Moldboard Plow

At the same time Jefferson was trying new legumes and grasses to hold the soil and restore its fertility, he was turning his inventive genius to improving the plow. While he was abroad the whole problem was brought home to him as he watched the peasants in France struggle with their heavy ox-plows. Struck with the extreme drudgery of their work because of the lack of an efficient moldboard, he made a hasty sketch in his notebook of the way to shape a proper one, and, after his return to this country, began working on a model which he sent to Thomas Mann Randolph, his son-in-law, in 1790.

Once back at Monticello he began experimenting in earnest with his moldboard "of least resistance." After 5 years' experience had proved its practicability, he sent a detailed description and model to the American Philosophical Society.

The importance of this moldboard can hardly be appreciated today, when farm machinery of uniform design and quality is available to all. In Jefferson's time the moldboards were crudely constructed and no two were alike. The formula was so simple that it could be used by even "the most unlettered laborer," who was thus certain of obtaining an efficient moldboard exactly like the original.

Horizontal Plowing

In spite of his change in crops and his deep plowing, erosion continued to beggar his fields. Far from discouraged, Jefferson, in conjunction with Randolph, resolved to try a new method of plowing—"over hillsides horizontally." Where Jefferson may have learned such plowing is not known, but what is important is that the two men tried it and demonstrated to their own satisfaction that it really worked. All the time Jefferson was in the White House, Randolph managed his estates for him,

and among the memoranda Jefferson sent the overseers is the instruction that "all ploughing is to be done horizontally, in the manner Mr. Randolph does his." Jefferson remained an advocate of horizontal plowing all the rest of his life. Writing to a friend in 1813 he described its effects and its appearance as follows:

> . . . We now plough horizontally, following the curvatures of the hills and hollows, on the dead level, however crooked the lines may be. Every furrow thus acts as a reservoir to receive and retain the waters, all of which go to the benefit of the growing plant, instead of running off into the streams. In a farm horizontally and deeply ploughed, scarcely an ounce of soil is now carried off from it. In point of beauty nothing can exceed that of the waving lines and rows winding along the face of the hills and valleys. The horses draw much easier on the dead level, and it is in fact a conversion of hilly grounds into a plain . . .

Diversified Farming

There was no phase of farming that Jefferson did not consider. Vineyards, orchards, gardens, and livestock all came in for attention. The fruit grown at Monticello was noted for its fine flavor, and he constantly sought new species and varieties to add to his nursery. Gradually he replaced some of the rail fences along the field boundaries by peach trees.

His Garden Book, covering a span of 58 years, is evidence of the importance he attached to his gardens. In the vegetable garden, terraced so that it wouldn't wash away, he experimented with 32 different vegetables. He managed to have some kind of garden produce the year round. A vast correspondence relates to the trees, shrubs, berries, and vegetables ordered from the leading dealers in Philadelphia and Georgetown, and to innumerable gifts of seeds and plants received from friends in this country and abroad.

Improving American livestock was another of his farming practices. Starting with ordinary sheep, he imported blooded Spanish Merinos to build up and improve his own and his neighbors' flocks. He had some broad-tailed Tunisian sheep, but his attempts to breed them failed. To guard his flocks he raised shepherd dogs that were highly prized—the original pair was a gift from Lafayette. He imported Calcutta hogs, noted for their rapid growth and was interested in fancy poultry.

Experiments for Others

Although engaged in all the usual routine of the farm when at home, Jefferson found time to try out new implements, such as the Scotch threshing machine and Martin's seed-drill, on which he frequently made further improvements. He himself invented a hemp brake to facilitate the extraction of the fiber from the plant. He once said that "the few who can afford it should incur the risk and expense of all new improvements, and give the benefit freely to the many of more restricted circumstances." It was this generous impulse that led Jefferson to experiment with new crops, new techniques, and new breeds of livestock, in the hope that his findings would be of use to all the farmers of the Nation.

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Impact of War ON OUR *Forests*

By R. N. CUNNINGHAM. *Strategic values of wood and wood products have brought a better utilization of many woods but have brought also an intensified and concentrated cutting in the forests, says this forester, who outlines five ways to safeguard future productivity.*

LUMBER is more critical than steel today in the economy of war. It is needed for camps, boats, gliders, plane propellers, and for crating overseas shipments. Paper, needed to package food supplies and to protect war equipment for shipping, is scarcer than aluminum. Veneer for planes and boxes ranks close to oil and tin as a war material. In the two and one-half years since Pearl Harbor, lumber, paper, and other forest products have advanced from a rather obscure place in the war economy to this position in the front rank.

The impact of this tremendous demand with fairly high prices and the Government's efforts to stimulate production is beginning to be felt in the forest. It is reflected in (1) greatly accelerated rate of lumbering, (2) excessive concentration of cutting in certain areas and a tendency to cut timber too young and too ruthlessly, and, on the other hand, in (3) a better utilization of inferior species and parts of the tree formerly wasted.

Some of these developments are good. Others offer a serious threat to resources which will be needed during the reconstruction after the war and possibly for other emergencies in years to come.

No one would suggest withholding a single stick of timber that would help to shorten a battle or give added protection to men at the front. Overcutting must be tolerated in time of war. It is appropriate, however, to consider all practicable means by which the needed timber can be produced with the minimum of permanent harm to the forest. The potentialities of our forests are still very great if their utilization is properly organized.

The extent of increase in production of forest products has been remarkable considering the handicaps that have faced the industries—manpower shortages, bottlenecks in equipment, dislocated markets, restrictions on buying and selling. With typical American zeal in cases of emergency, farmers, lumberjacks, and timber operators have responded to the call for forest products for the war. More lumber, more pulpwood, more veneer bolts, and more ship timbers have been cut and delivered in the years since Pearl Har-

bor than for many years before. From a pre-war average of 25 billion board feet per year (1936–40) United States lumber production was lifted above 35 billion board feet in each of the war years. Pulpwood deliveries, about 10 million cords per year from 1937–39, increased to nearly 7 million cords in 1942 and nearly 15 million cords in 1943, and are expected to be about 14 million cords in 1944. Production of veneer logs and many other products has followed a similar course.

For Instance

Take the Lake States forests as an example. As they are made up mainly of small trees in swamps or on previously logged-over uplands, they have been called upon less than some others for ordinary lumber but they have made a large contribution in pulpwood, and the remaining virgin hardwood forests and farm woodlands have produced high-grade veneer logs, ship timbers, and box materials in considerable volume. Paralleling the national trend, Lake States lumber production increased from 596 million feet in 1934 to 781 million in 1939, and more than 1,000 million feet in 1942 and 1943. Pulpwood consumption rose from 1,305,000 cords in 1934 to 1,659,000 in 1939, and more than 2,000,000 cords in 1942 and 1943.

Concentrated Cutting

Shortage of road-construction equipment, trucks, and manpower means that logging is not proceeding into the more remote districts as rapidly as it logically would. There mature and over-mature stands are still to be found. Logging is not being conducted in the form of partial cuts over extended areas in a way to stimulate regrowth. Instead, it too, largely is concentrated in accessible young forests and too commonly consists of clear-cutting immature timber.

Predictable

Results are readily predictable. On the most accessible and most productive lands, the region at best will have a forest of very young seedlings incapable of yielding additional products for several decades. On the more remote and less fertile lands, it will have the ragged remnants of an overmature and decadent forest ravaged by insects, disease,

Cannot Budget

You cannot budget for freedom—for freedom is beyond price.
—Field Marshal Sir John Dill

and windthrow. The Lake States region probably is fairly representative of the country as a whole in regard to this effect of wartime logging.

Closer Use

Intense demand from war industries for the better grades and better species of timber has encouraged the use of inferior woods for less essential purposes.

Railroad ties normally are made from oak, in the Lake States region. Today, some railroads are accepting ties of almost any hardwood species, including aspen, paper birch, black ash, elm. Paper mills are using much more aspen than formerly. Iron mines are taking aspen poles and slabs for lagging in place of the usual cedar and tamarack. Furniture companies find more uses for beech and soft elm. Many new uses are being found for eastern hemlock, cottonwood, Balm of Gilead, and willow. Industries that formerly demanded the higher grades of lumber are getting along with shorter lengths and lower grades.

Technical Advances

Technical advances in use of wood have contributed to this trend to better utilization. Development of glued-up timbers in place of large single pieces, improvements in veneers, modification of pulping processes, standardization of specifications for many products, have encouraged the use of poorer parts of the tree.

Opposite trends may be noted in some places. Because of labor shortage and increased labor costs, occasionally tops and limb-wood are now left to rot on the ground whereas formerly they were cut for fuel, for chemical wood, or for posts. But in general the effect of changed utilization has been beneficial to the forest, although it falls far short of offsetting the effect of heavy cutting.

Impairment

The net effect of heavy cutting, concentrated as it is in the most accessible and most thrifty young timber stands, is to impair the capacity of the forests to contribute to the reconstruction of homes and industries after the war, and may limit their ability to meet another national emergency should one occur within 20 or 30 years.

No justification for unnecessary timber waste can be based upon the belief that timber requirements will subside rapidly when the war is over. On the contrary, one can foresee intense demand for forest products for many years thereafter. New homes and new business structures will be needed. Farm buildings will require early attention. Construction of both railroads and highways will be renewed. Industries using wood fiber and wood distillates as a basis for new products already are scouting the area to learn its possibilities as a source of raw materials. Prospective demand for wood is almost limitless.

Human Aspects

Finally, thought must be given to the social and economic effects of deforestation upon the people living in the forested areas, including those now enrolled in the armed services.

Normally, 150,000 men obtain all or a substantial share of their income

from occupations connected with the forests in the Lake States region alone. Many more farmers and settlers cut fuel-wood, fence posts, and other forest materials for their own use or for sale. Today, many of these men are serving their country in other parts of the world. When they return, they will want to find not a devastated landscape and a bankrupt industry. They will want and expect to find conditions under which they may have stable work and an opportunity to prosper.

Combinations

Whatever back-to-the-land movement may develop in the wooded sections of the Lake States after the war will have to be based, not strictly upon agriculture, but upon a combination of farming with some outside employment. Normally, the forest should provide jobs for many farmers near their homes in addition to supporting numerous industries in nearby towns. But if, in addition to the mature timber, all the young timber that should provide such work for the next generation is cut away now, the basis for a sound rural economy will be greatly diminished. So far as is humanly possible, the men who have the responsibility for harvesting wartime timber crops should see that this condition does not prevail.

To Safeguard

It is easier to recognize the dangers in the present situation than it is to devise a remedy. Most of the countries engaged in this conflict are finding it necessary to overcut their forests. But overcutting for a period of years need not be disastrous if it is done in such a way that it will not destroy the recuperative power of the forest. In thinking over what might be done to safeguard the future productivity of the forest, several possibilities come to mind.

(1) Open up more of the remote or otherwise unavailable stands of mature timber. Where accessibility is the controlling factor, a transportation program supported and pushed by every feasible means is the answer. Where economic or sentimental factors are the chief obstacle, appropriate means must be found for bringing the timber on the market, for national interests are at stake.

(2) Obtain the remainder of the requirements, so far as practicable, from thinnings, partial cuttings, and salvage of scattered, overmature, or defective timber. Experiments have demonstrated that two, three, and even more light thinnings can be made in pine and spruce forests without decreasing the volume of final yield. In fact, the rate of growth and the quality of timber in a carefully thinned timber stand exceed that of an untouched forest.

(3) Develop new devices and new techniques of operation which will cut costs and save manpower. Already new devices designed to simplify the loading and transporting of forest products have reduced manpower requirements, cut costs, and widened the practical range of operations for loggers.

(4) Intensify efforts to improve utilization and find new uses for the products of the forest that are now wasted. Wood chemists are opening up new possibilities in plastics, wood distillates, and other products; timber engineers continue to find new uses for the lower grades of wood. The

more these developments can be speeded, the less will be the wastage of raw materials from the forest.

(5) Keep fingers on the pulse of the forest and the forest industries. Facts concerning the condition of the forests, their rate of growth, and their rate of depletion should be kept currently recorded, so that measures can be adapted to meet changing conditions.

Teamwork

All of these aims call for close cooperation between landowners, timber operators, State, county, and Federal foresters. Fortunately, a wholesome attitude of teamwork has been developed during the war. First in fire protection, then in collection of industrial statistics, finally in overcoming bottlenecks to expedite production, the several groups have worked together for a common purpose. In the process, landowners have learned that forests, rightly handled, can yield substantial profits. Timber operators, many of whom used to think of professional foresters as impractical and arbitrary, have come to value highly their technical advice. Public foresters have learned more of the many and varied operational problems of the landowners, loggers, and mill men, and will be better prepared to help them in the future.

This augurs well for teamwork in the broader aim of managing the whole timber resource for maximum efficiency during the war and of leaving it in the best possible shape for our young men when they come back from the war.

The land of America is covered with the aftermath of the corn harvest. Shocks follow the sweep and curve of the hills, the dip of the valleys. Stalks stand like spectres upon the fields. A European, homesick for his own country, thinks of vineyards or little farms. An American, lonely in a foreign land, sees fields of corn. He sees pale rows across the earth in spring, and solid stands of corn in summer; but most of all he sees dim gold shocks upon his homeland in the fall. He sees bright little yellow pools at the foot of these shabby shocks, as solitary figures husk the corn in the first cold of winter. He sees corn-filled cribs, and ears in the shelter of barns. And seeing all these, he will hold fast to them; for he knows these will endure, when empires have fallen and the quiet of the battlefield is broken only by ghosts.

—Clare Leighton, in *Give Us This Day*, Reynal & Hitchcock.

Books

AN AMERICAN DILEMMA: THE NEGRO PROBLEM AND MODERN DEMOCRACY. By *GUNNAR MYRDAL* with the assistance of *RICHARD STERNER* and *ARNOLD ROSE*. Harper and Brothers. New York. 2 v. (Bibliography.)

THESE two volumes are much less a compendium or summary of the many researches undertaken in the Carnegie Corporation's study of the Negro in America than they are an *interpretation* of the American Negro problem. The interpretation is Gunnar Myrdal's own, one he has thought out himself. At the same time it is an eclectic interpretation, with free borrowing from the well-known approaches to an understanding of race in America—the psychoanalytic, the cultural, the moral, the economic, the historical.

Although most of the facts, theories, explanations, and documentation of the volumes are not new to readers of the great store of literature on the American Negro, the way they are put together to make an integrated case for Myrdal's interpretation is novel. The immortality of the book will hinge upon the validity of that interpretation, and the validity will in the end be tested as much by the unfolding events in the dynamics of racial interaction in America as by the critical scholars of race.

The American Negro problem, according to Myrdal, is primarily a white man's problem which exists within his heart. The "American Dilemma" is the internal conflict raging between the white man's belief in the American Creed of "the essential dignity of the individual human being, of the fundamental equality of all men, and of certain inalienable rights to freedom, justice, and a fair opportunity" and his valuations on specific planes of reaction, especially with regard to the Negro. Thus the Negro problem is a moral problem, in which conflicting valuations lead to moral compromise.

Though not given to prolific predictions, Myrdal seems to have faith that the American Creed will, in the long run, win out. In their institutions, American people have placed their ideals of how the world ought to be and thus these ideals become more powerful forces, in turn, modifying the behavior of the individuals. This is Myrdal's theory of social self-healing which takes place in a democracy.

A brief review of these volumes could not begin to list the many facets of American life which the author probes in his sweep of our culture from a "frog's eye" point of view for their bearing on the American race problem. A chapter-by-chapter abstract prepared by E. Franklin Frazier fills this need ably

and relieves reviewers from the altogether impossible task.

MORE SUGGESTIVE to potential readers than a detailed listing of subjects covered might be an indication of the uniquenesses and the emotion-provoking features of the volumes. First there is the tone, which is exceedingly personal—one can almost feel himself a Swedish visitor observing American patterns of behavior in race relations for the first time. Next there is the uncertainty as to what level of audience the writer had in mind when he wrote, since at one place there will be unexplained allusions to sociological or philosophical theories with which the reader is assumed to be familiar, and at another the assertion of some ultra-simple fact as if it were a new discovery. Next there is the almost studied attempt to disavow allegiance to any of the previously existing schools of thought on the American Negro—especially the doctrines of the Communist party or the rationalizations of Southern liberals—even though such thinking has had an important role in the development of Myrdal's own interpretation.

FINALLY, there is the flattering technique, which Myrdal may have learned from the Negro. He takes the privilege of criticizing us only according to the inconsistency of our actions with the American Creed, to which he pays high tribute. After more than a thousand pages of critical appraisal of our culture and behavior, which will evoke sensitive reactions at one place or another from almost any reader, he "makes up" by expressing great confidence in America's future role as the most powerful white nation and in the inherent goodness of American people.

—*Margaret Jarman Hagood*

PLANNING FOR THE SOUTH. AN INQUIRY INTO THE ECONOMICS OF REGIONALISM. By *JOHN V. VAN SICKLE*. Vanderbilt University Press. Nashville, Tenn. 250 pages.

THIS BOOK by an intellectual liberal weaves into one statement: (1) An analysis of certain major southern problems; (2) an appraisal of various social control measures, largely those of a governmental nature; and (3) a set of recommendations or suggestions for future action. With a few minor exceptions, the discussion pertains to the pre-war situation.

The author's social philosophy, which by the very nature of the book pervades every part of every chapter, is that of a middle-of-the-road liberal of the Walter Lippmann school.

If this brand of liberalism could become widely accepted, tolerantly interpreted, and vigorously pursued, it would afford a rational basis for many highly constructive lines of activity both within and without the South. The greatest weakness of this brand of liberal doctrine revolves around the relations of the State to organized labor. If labor is not *just*

a commodity, then the concept of "perfecting the market" does not afford the necessary basis for delineating the responsibilities of the State to labor. Van Sickle's handling of labor problems is limited by this weakness of his social philosophy. He favors trade-unions and collective bargaining, but he throws no new light on the problem of the State's proper relationship to labor unions. Since he gives much more space to an analysis of labor unions and their activities than he does to such institutions as trade associations, cartels, farmer organizations, monopolistic pricing, marketing quotas, and parity price legislation, he opens himself to charges of not handling the topic objectively.

Like most other recent students of southern conditions, the author finds that the poor soil and dwindling natural resources of the South, coupled with its rapidly multiplying population, are the principal explanations of the general poverty of the region. The South's economic and social conditions are so bad, he believes, that they have important *national* implications. Hence they warrant corrective action of a type which includes but goes beyond the scope of that which can be taken within the region. Moreover, such action must result in differential Federal aid to the South, in a broad sense, and be aimed at bringing about a gradual equalization of interregional conditions. Particularly, he argues, encouragement should be given to a greater expansion of industry in the South.

The author contends that public action should be concentrated mainly upon: (1) Maintaining and improving the natural resources; (2) improving the health and education of the people; and (3) removing various restrictions, impediments, and inflexibilities in our social and economic organization in order to improve the workings of the free enterprise system.

IN HIS SUGGESTED division of responsibilities for carrying out these lines of action as between Federal and non-Federal units of government, he generally leans toward more State and local participation than existed in the thirties. However, he still imposes upon the Federal Government large and important responsibilities.

Van Sickle's discussion of Proposed Goals for the Southern Region gives an excellent summary of the most important conflicting views among southerners as to the proper or desirable future of the South. He finds little place for either the extreme of southern agrarianism or for a South whose main function is to supply labor and raw materials to an expanding industrialism in the North and East. Rather, he expects a greater regional diversification of economic activity.

In his final chapter, he suggests a national tax system far in advance of popular thinking. In general, it involves heavy reliance on progressive income taxes to be collected by the Federal Government and a rebating of revenues to State and local units of government through a system of differential Federal aids.

Taken as a whole, the book provides a point of view, and suggests courses of action which, if courageously carried out, would give us a better Nation and a greatly improved South.

—James G. Maddox

PRICE MAKING IN A DEMOCRACY. By *EDWIN G. NOURSE.* The Brookings Institution. Washington, D. C. 541 pages.

HERE IS another addition to the list of current publications which attempt to chart economic policies to improve the functioning of the private-enterprise system. The author stresses the point that the modern economic system is considerably dominated by large corporate aggregations which have sufficient discretionary economic power to enable them to adopt short-run price and production policies that do not promote long-run full employment of productive resources. Competition among these firms is not considered adequate to pass on to consumers, through appropriate prices, the full benefits of technological and other business-enterprise improvements. Under the current pricing practices these benefits accrue too much to owners and managers of enterprises with a corresponding tendency for resources to go too largely into unutilized plant capacity and too little into increased production of consumption goods for the masses.

Long-run interests of business enterprises, as Dr. Nourse sees it, lie in pursuing a "low price policy" which will enable consumers to buy the increased production made possible by technological advance. If such a price policy were followed generally, owners of business enterprises would receive greater aggregate profits (although probably a smaller proportion of the total national income), human and other resources would be more fully employed, consumers would enjoy a higher level of living, and the need for Government interference would be greatly reduced. Pricing policies designed to expand the demand for products as much as possible within the limits necessarily set by costs would achieve the beneficial results that early economists expected to follow automatically from competition in a simpler kind of economic system.

Many problems faced by business enterprises operated for profit when putting into effect a low price policy are explored systematically. But despite the difficulties, the author thinks that business leaders can accomplish much for themselves and for the mass of consumers if they will adopt the longer-run view that continued profits result only from a healthy economy. A major part of the book attempts to convince business leaders that they can and should utilize the discretionary economic power inherent in control over large aggregations of productive resources to make the private-enterprise system function better both in their own and in the public long-run interests.

The philosophy of a low price policy is presented as a partial substitute for expanded functions of government in economic matters. Dr. Nourse presents his confession of faith in private enterprise early and often, but frankly recognizes that it must remain largely a matter of faith that cannot be subjected to scientific analysis. Whether others agree with him on this matter need not impair the usefulness of the central core of his economic analysis. He sets forth clearly the policies that he be-

lieves private enterprise would need to follow to promote full employment. Individual readers are left free to reach their own conclusions regarding the willingness and ability of private enterprise to follow this charted course.

This reviewer shares the skepticism of those cited in the book who doubt the ability of business leaders to effectuate a low price policy on a broad scale. It is not clear that even the long-run economic interest of individual business leaders lies in foregoing the exploitation of a monopolistic situation to obtain larger immediate profits from less than maximum feasible production. It would be unfair to label Dr. Nourse's analysis as "mass-meeting economics," yet it does have some traces of that approach. Under his plan it would be the concerted action of business leaders rather than real competition that would promote consumers' interests. Associations of business leaders would have to be willing collectively to assume responsibilities for the public welfare comparable to those usually assumed by government. Some may well question whether the public can permit business leaders to exercise the economic power necessary to effectuate a low price policy without running too great risks of abuse of that power.

THE ROLE of government needs more analysis than is given in this book. Can we be sure that assumption of greater responsibility by business leaders for proper functioning of the economic system would reduce the aggregate sphere of governmental action? Might it not just change its form? It is hoped that a subsequent publication will tackle the question of the specific role of government in such a scheme. Is there a place for government aid in facilitating the outlined low price policy? What correlative safeguards would be needed to insure that added economic power resulting from greater cooperation among business leaders will be used in the public interest? It may be that more rather than less governmental activity would be required to make this "cooperative" business competition an effective organizing force in our economic life.

For professional economists Dr. Nourse's observations on the place of the economist in the formulation of business policy is of interest. He would have the economist stick to his last as a social scientist and not attempt to take responsibility for final business decisions. He would have the economist attached to business enterprises work in the atmosphere of scientific objectivity demanded by the industrial chemist. The same arguments probably could be advanced with equal force for confining the Government economist to the field of objective scientific inquiry.

A SIX-PAGE SUMMARY of the book with which the final chapter opens will interest those who like to take their economics in concentrated form. After reading it the reader wonders whether so many pages were needed to develop the thesis. The rather elementary discussions at various points may be justified, however, by Dr. Nourse's wish to appeal to a reading public much larger than that made up of his fellow economists.

—*Donald C. Horton*

NATURAL PRINCIPLES OF LAND USE. By *EDWARD H. GRAHAM.* Oxford University Press. London, New York. 274 pages. (Bibliography.)

DR. GRAHAM makes use of a rather varied experience in the fields of botany and ecology and as Chief of the Biology Division, Soil Conservation Service, to build this treatise which is based on "the premise that biological concepts can contribute importantly to the wise use and management of land."

Following five rather general background chapters, dealing with the character of those natural forces and relationships which constitute plant and animal life on the land, comes a study of landscapes, types of land, land use capability classifications, and land-management tools. Then farms, forests, and range pass in review with rather general discussions of conservation, resource classifications and institutional controls, along with an examination of the relationships of plant and animal life on these three types of land use. Wildlife in relation to land use is considered and stream pollution subjects, such as the use of wet lands, farm ponds, and water supplies. Control of land pests and "Exotic Things" are discussed and the final chapter, "The Land And Human Welfare," considers briefly some of the important relationships between the land and man's personal welfare.

Abundant photographs serve to vitalize the text and to bring the reader closer to the theme with which the author has concerned himself. Both professional and lay readers should find the style easy to read, with considerable landscape romance scattered throughout.

The author sees the need for land-management biologists to provide a new horizon in connection with the larger field of land use and conservation. The task of these workers would be "to maintain a reasonable balance between communities of living things and land-use practices." He urges that more general recognition be given to the fact that ecological forces greatly influence the possibility of the control of soil erosion, and that a proper understanding of such forces will permit land-management programs consistent with the most productive pattern of land use. Consequently, the author feels that these biologists should familiarize themselves with the tools of land management in order that they may contribute to the proper classification and development of land resources. Emphasis is given to land classification, particularly to the use-capability classification used by the Soil Conservation Service, as a most productive land-management tool in directing land uses and practices.

The general impression received by the reader is that the book is a plea for giving greater attention to mutual relations between organisms and their environment when planning programs of land utilization and conservation. It stresses the benefits from a proper balance between animal life and land. The author recognizes that conservation of land resources is a social problem, but his analysis does not carry through to this point. Actually, it is very difficult, if not impossible, to analyze principles of land use except through the discipline of the social sciences.

—*V. Webster Johnson*

How To Live in the Country Without Farming. Planning and Establishing a Productive Country Home. By *MILTON WEND.* Doubleday, Doran & Co., Inc. Garden City, N. Y. 316 pages.

So You're Going to Buy a Farm. By *DAVID B. GREENBERG* and *CHARLES CORBIN.* Greenberg: Publisher. New York. 140 pages.

Woodland Opportunities on Dairy Farms in New York. By *HUGH A. JOHNSON, IRVING F. FELLOWS, DONALD RUSH, C. R. LOCKARD,* and *C. EDWARD BEHRE.* Charles Lathrop Pack Forestry Foundation. Washington, D. C. 35 pages.

Practical Farming for the South. By *B. F. BULLOCK.* University of North Carolina Press. Chapel Hill. 510 pages.

How to Live in the Country Without Farming is for the white collar worker who is weary of subways and hustle, whose mind is running to grass and gardens and a country home, but who perhaps lacks the capital, experience, or inclination to run a farm. It is as full of advice as a village barber—much of it good, however. It tells you everything from how to buy a country property down to the calculation of a hog's weight by shrewd measurements fore and aft.

Many of the suggestions on how to live comfortably in the country are as useful to farmers as to others. Each chapter carries an excellent reading list, opening the road to further study. The book lives up to its title, on the whole, and will make interesting reading for many an urban soul who now goes downtown every morning reluctantly.

So You're Going to Buy a Farm is another addition to the flood of literature for the back-to-the-landers. It contains good chapters on financing the purchase of a farm, on the problems and pitfalls of the "week-end farmer," etc. Most of its advice is sound and sensible, though stereotyped. The book is about equivalent to an hour's talk with an intelligent farmer or county agent.

Woodland Opportunities on Dairy Farms in New York gives the results of a farm-management study made by the Bureau of Agricultural Economics and the Forest Service in Otsego County. In 1937 a farmer's cooperative in that county built a modern wood-working plant which provided a ready market for products of the local farm woodlands. This development made that area peculiarly suitable for studying how such dairy and poultry farms might enlarge their incomes by better use of their woodlots.

The pamphlet analyzes the business of 90 farms, all members of the Forest Products Cooperative, and gives detailed plans for reorganizing three of them, suggesting certain improvements in farm management and particularly in handling the woodlots—selective cutting, no grazing, better planned work in woods, etc. Underneath its stuffy, academic verbiage, this is a valuable study in land use, offering food for thought to many owners of eastern hill farms. The Pack Foundation has contributed a nicely turned out publication.

Practical Farming for the South is in the nature of a book for agricultural teachers of young people in the South. It is more or less like scores of other books on the fundamental

principles of crop and animal production, although it has a distinctive sectional slant. Part One is on plant production; Two is on animal production; a short Part Three takes up farm financing and gives a very good reference list of books and bulletins, plus some discussion of Mr. Faulkner's new ideas on plowing. The book is comprehensive, well organized, well written, conveys the basic principles of agriculture in a clear common-sense way, and should be useful for years. If this reviewer were an agricultural teacher in the South he would certainly welcome this book.

—A. B. Genung

FOOD, WAR, AND THE FUTURE. By *PARMALEE PRENTICE*. Harper & Brothers, New York and London. 164 pages.

THIS VOLUME by the Don Quixote squire of Mount Hope Farm is a tract for the times. The main themes of the author's warnings to the present generation are here presented in distilled but potent form. They constitute a distinctly individualistic analysis of the experiences of the past in their inevitable relations to the somber present and the direful future.

Recapitulation of a subject as broad in scope as the one here explored is difficult and dangerous, but the main argument is that great population increases, lack of adequate and equitably distributed national resources, diminishing production of foodstuffs, dependence of densely populated Europe on manufacturing, without free access to markets, are the main menace to the peace of the world. Unless the tide of population growth in the wheat-consuming countries is stemmed, the sort of poverty now limited to Asia will spread to and overwhelm the western world. To thwart the fulfillment of this dire form of Malthusianism we must deliberately and consciously apply the growing knowledge of the laws of animal and plant breeding. To this end much of the work of the author and his associates at Mount Hope farm is dedicated.

In this volume the agricultural colleges are singled out for particular excoriation. The manner in which most of the agricultural professors accepted, repeated, and perpetuated the " 'pure-bred' notion" is explained in detail and offered as the main basis for the author's conclusion that "The [agricultural] colleges . . . stand athwart the path of progress." So far as the livestock and dairy industries are concerned, he believes that the need is modern biologists, for "Modern Bakewells are an anachronism and intolerable."

The question of whether persons engaged in educational work should be connected in any way with commercial interests that stand to gain or lose by the instruction they may give is also analyzed briefly but pointedly. The conclusion of the chapter on A New Agriculture for the Twentieth Century is that "Agricultural colleges have done little original work." In view of the vital relation of the colleges and experiment stations to food production, this chapter is a challenge to which the entire citizenry must give constructive thought. *—Everett E. Edwards*

Evolution of a Farm Saying

Aristotle (*B. C. 384–322*) related that **Perses** had declared that the master's eye was the best thing to make a horse fat, and that **Libys** had affirmed that the master's footsteps were the best manure for his land.

In the *first century A. D.*, **Plutarch** quoted as a saying:
Nothing fattens the horse so much as the eye of the master.

And **Columella** wrote:
Wherever the eyes of the master, himself upon the spot, have been frequently cast, in that part the fruit will ripen in greater profusion.

And **Pliny** wrote:
The eyes and footsteps of the master are very wholesome things for the field.

In *1662* **R. Watkyns** reminded his readers that—
The master's eye, as it is always found
Doth fat the horse; his foot doth fat the ground.

Today it is said:
The footstep of the farmer is the best manure for his farm.
The eye of the farmer is the best feed for his cattle.

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Universal

There is a maxim universally agreed upon in agriculture, that nothing must be done too late; and again, that everything must be done at its proper season; while there is a third precept which reminds us that opportunities lost can never be regained.

—PLINY THE ELDER